Claim Amendments
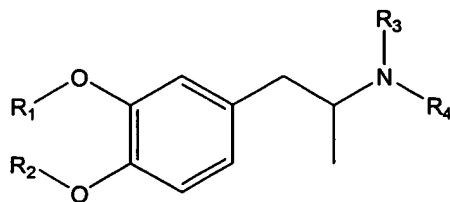
1. (previously presented) A compound of the formula:

Formula I

wherein: R^1 is H, lower alkyl or a protecting group,

R^2 is -(CH$_2$)$_n$C(O)R^6,

R^3 and R^4 are independently H or lower alkyl or a protecting group,

R^6 is immunogenic carrier or label, and

n is an integer from 1 to 5,

and including acid salts thereof.

2. (original) A compound according to Claim 1 wherein said immunogenic carrier is a poly(amino acid).

3. (original) A compound according to Claim 2 wherein said poly(amino acid) is a protein.

4. (original) Antibodies raised against the compound of Claim 3.

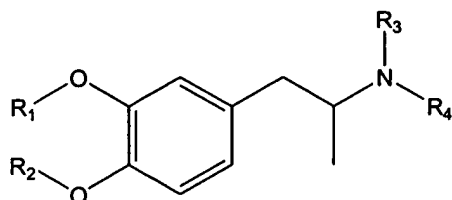5. (original) A compound according to Claim 1 wherein n is 1.

6. (previously presented) A compound according to Claim 1 wherein said label is an enzyme label, a luminescent label, or a radioisotope label.

Claims 7-12 (canceled).

13. (previously presented) A method for determining a compound selected from the group

consisting of 3,4-methylenedioxyamphetamine (MDA), 3,4-methylenedioxy-methamphetamine (MDMA), 3,4-methylenedioxyethylamphetamine (MDEA)   and   4-hydroxy-3-methoxy-methamphetamine (HMMA), said method comprising:

(a)   providing in combination in a medium:

(i)   a sample suspected of containing said compound and

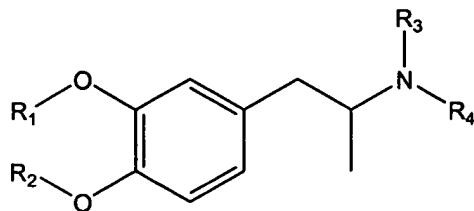(ii)   an antibody raised against a compound of the formula:

wherein: R^1 is H or lower alkyl,

R^2 is -$(CH_2)_nC(O)R^6$,

R^3 and R^4 are independently H or lower alkyl,

R^6 is an immunogenic carrier, and

n is an integer from 1 to 5, and

(b)   examining said medium for the presence a complex comprising said compound and said antibody, the presence thereof indicating the presence of said compound in said sample.

14. (original)   A method according to Claim 13 wherein said combination further comprises:

(iii)   a label conjugate of the formula:

wherein: R^1 is H, lower alkyl or is taken together with R^2 to form a ring,

R^2 is H, lower alkyl, -$(CH_2)_nC(O)R^6$ or -$(CH_2)_nR^6$, or is taken together with R^1 to form a ring,

R^3 and R^4 are independently H or lower alkyl, or, when R^1 is taken together with R^2

to form a ring, at least one of R^3 or R^4 is -$(CH_2)_nC(O)R^5$ or -$(CH_2)_nR^5$, or when R^1 is not

taken together with R^2 to form a ring, at least one of R^1 and R^2 is not H or lower alkyl,

R^5 is a label,

R^6 is a label, and

n is an integer from 1 to 5, and

said examining comprises measuring signal from said label, the amount thereof being related to

the presence of said compound in said sample.

15. (original)   A method according to Claim 14 wherein said method is a homogeneous

method and said medium is examined for the amount of said signal.

16. (original)   A method according to Claim 14 wherein said method is a heterogeneous

method and said complex, if present, is separated from said medium.
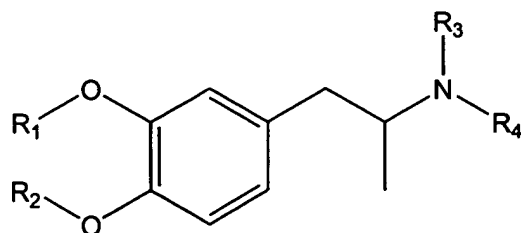
17. (original)   A method according to Claim 14 wherein said protein is selected from the

group consisting of KLH, BSA, BGG and ovalbumin.

18. (original)   A method according to Claim 14 wherein n is 1.

19. (previously presented)   A method according to Claim 15 wherein said label is an

enzyme label, a luminescent label, or a radioisotope label.

20. (previously presented)   A kit for determining a compound selected from the group

consisting of 3,4-methylenedioxyamphetamine (MDA), 3,4-methylenedioxy-methamphetamine

(MDMA), 3,4-methylenedioxyethylamphetamine (MDEA) and 4-hydroxy-3-

methoxymethamphetamine (HMMA), said kit comprising:

(a)   an antibody raised against a compound of the formula:

wherein: R^1 is H or lower alkyl,

                R^2 is -$(CH_2)_nC(O)R^6$,

                R^3 and R^4 are independently H or lower alkyl,

                R^6 is an immunogenic carrier, and

                n is an integer from 1 to 5, and

     (b)   ancillary reagents for determining said compound.

21. (previously presented)   A kit for determining a compound selected from the group consisting of 3,4-methylenedioxyamphetamine (MDA), 3,4-methylenedioxy-methamphetamine (MDMA), 3,4-methylenedioxyethylamphetamine (MDEA) and 4-hydroxy-3-methoxymethamphetamine (HMMA), said kit comprising:
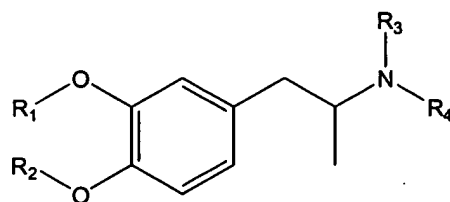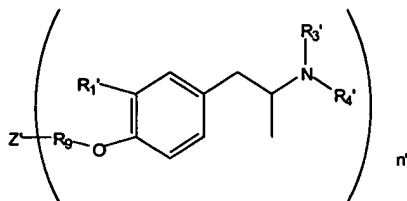
     (a)   an antibody for said compound,

     (b)   a label conjugate of the formula:

wherein: R^1 is H or lower alkyl,

                R^2 is -$(CH_2)_nC(O)R^6$,

                R^3 and R^4 are independently H or lower alkyl,

                R^6 is a label, and

                n is an integer from 1 to 5,

     (c)   ancillary reagents for determining said compound.

22. (original)   A kit according to Claim 20 wherein said protein is selected from the group consisting of KLH, BSA, BGG and ovalbumin.

23. (original)   A kit according to Claim 20 wherein n is 1.

24. (previously presented) A kit according to Claim 21 wherein said label is an enzyme label, a luminescent label, or a radioisotope label.

25. (currently amended) A method for determining amphetamine and/or methamphetamine and/or methylenedioxyethamphetamine in a sample suspected of containing methylenedioxyamphetamine and/or methylenedioxymethamphetamine and/or methylenedioxyethamphetamine, said method comprising:

(a)   providing in combination in a medium:

(i)   said sample,

(ii)   an antibody for methylenedioxyamphetamine, and/or

(iii)   an antibody for methylenedioxymethamphetamine, and/or

(iv)   an antibody for methylenedioxyethamphetamine, and

(v)   a compound of the formula:

wherein:

$R^{1'}$ is H, or methyl or ethyl

$R^{3'}$ is H,

$R^{4'}$ is H, or methyl or ethyl,

$R^{9'}$ is -(CH$_2$)$_n$C(O)~~R$^{6'}$~~,

~~R$^{6'}$ is~~ Z', ~~which~~ is an enzyme,

n' is an integer between 1 and the molecular weight of said enzyme divided by about 500; and

(b)   examining said medium for the presence of a complex comprising said methylenedioxyamphetamine and said antibody for methylenedioxyamphetamine and/or a complex of said methylenedioxymethamphetamine and said antibody for methylenedioxymethamphetamine and/or a complex of said methylenedioxyethamphetamine and said antibody for methylenedioxyethamphetamine, the presence thereof indicating the presence of said methylenedioxyamphetamine and/or methylenedioxymethamphetamine and/or

methylenedioxyethamphetamine in said sample.
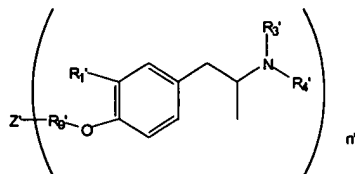

Claim 26 (canceled).

27. (currently amended) A method for determining methylenedioxyamphetamine and/or methylenedioxymethamphetamine and/or methylenedioxyethamphetamine in a sample suspected of containing methylenedioxyamphetamine and/or methylenedioxymethamphetamine and/or methylenedioxyethamphetamine, said method comprising:

    (a)   providing in combination in a medium:

        (i)   said sample,

        (ii)   a conjugate of an enzyme and a methylenedioxyamphetamine analog and/or a conjugate of an enzyme and a methylenedioxymethamphetamine analog and/or a conjugate of an enzyme and a methylenedioxyethamphetamine analog,

        (iii)   an antibody for methylenedioxyamphetamine, said antibody being raised against a compound of the formula:

wherein:

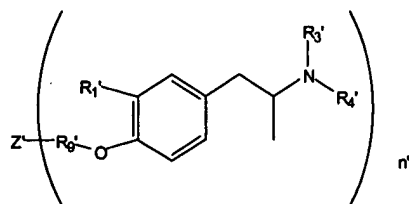 $R^{1'}$ is H, or methyl or ethyl

    $R^{3'}$ is H,

    $R^{4'}$ is H,

    $R^{9'}$ is -$(CH_2)_nC(O)R^{6'}$,

    $R^{6'}$ ~~is~~ Z', ~~which~~ is a protein immunogenic carrier or a non-poly(amino acid) immunogenic carrier,

    n' is an integer between 1 and the molecular weight of said protein immunogenic carrier or said non-poly(amino acid) immunogenic carrier divided by about 500; and/or

        (iv)   an antibody for methylenedioxymethamphetamine, said antibody being raised against a compound of the formula:

wherein:

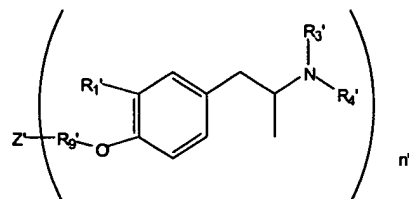$R^{1'}$ is H, or methyl or ethyl

$R^{3'}$ is H,

$R^{4'}$ is methyl,

$R^{9'}$ is $-(CH_2)_nC(O)R^{6'}$,

$R^{6'}$ is Z', ~~which~~ is a protein immunogenic carrier or a non-poly(amino acid) immunogenic carrier,

n' is an integer between 1 and the molecular weight of said protein immunogenic carrier or said non-poly(amino acid) immunogenic carrier divided by about 500; and/or

(v)   an antibody for methylenedioxyethamphetamine, said antibody being raised against a compound of the formula:

wherein:

$R^{1'}$ is H, or methyl or ethyl

$R^{3'}$ is H,

$R^{4'}$ is ethyl,

$R^{9'}$ is $-(CH_2)_nC(O)R^{6'}$,

$R^{6'}$ is Z', ~~which~~ is a protein immunogenic carrier or a non-poly(amino acid) immunogenic carrier,

n' is an integer between 1 and the molecular weight of said protein immunogenic carrier or said non-poly(amino acid) immunogenic carrier divided by about 500; and
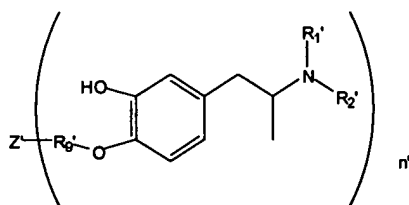
(b)   examining said medium for the presence of a complex comprising said methylenedioxyamphetamine and said antibody for methylenedioxyamphetamine and/or a complex of said methylenedioxymethamphetamine and said antibody for

methylenedioxymethamphetamine and/or a complex of said methylenedioxyethamphetamine and said antibody for methylenedioxyethamphetamine, the presence thereof indicating the presence of said methylenedioxyamphetamine and/or methylenedioxymethamphetamine and/or methylenedioxyethamphetamine in said sample.

Claims 28-29 (canceled).

30. (currently amended) A kit comprising in packaged combination:

(i)   an antibody for methylenedioxyamphetamine,

(ii)   an antibody for methylenedioxymethamphetamine, and/or

(iii)   an antibody for methylenedioxyethamphetamine, and

(iv)   a compound of the formula:

wherein:

$R^{1'}$ is H,

$R^{2'}$ is H, or methyl or ethyl,
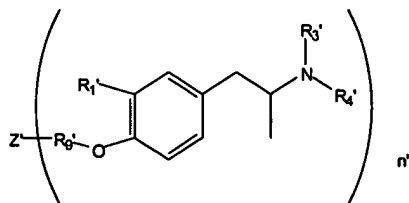
$R^{9'}$ is -(CH$_2$)$_n$C(O)R$^{5'}$,

R$^{5'}$ is Z', which is a protein immunogenic carrier or a non-poly(amino acid) immunogenic carrier,

n' is an integer between 1 and the molecular weight of said protein immunogenic carrier or said non-poly(amino acid) immunogenic carrier divided by about 500.

31. (currently amended) A kit comprising in packaged combination:

(i)   a conjugate of an enzyme and a methylenedioxyamphetamine analog and/or a conjugate of an enzyme and a methylenedioxymethamphetamine analog, and/or a conjugate of an enzyme and a methylenedioxyethamphetamine analog, and

(ii)   an antibody for methylenedioxyamphetamine, said antibody

being raised against a compound of the formula:

wherein:

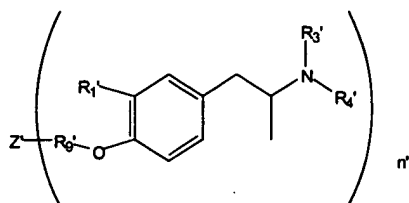R$^{1'}$ is H, or methyl or ethyl

R$^{3'}$ is H,

R$^{4'}$ is H,

R$^{9'}$ is -(CH$_2$)$_n$C(O)R$^{6'}$,

R$^{6'}$ ~~is~~ Z', ~~which~~ is a protein immunogenic carrier or a non-poly(amino acid) immunogenic carrier,

n' is an integer between 1 and the molecular weight of said protein immunogenic carrier or said non-poly(amino acid) immunogenic carrier divided by about 500; and/or

(iii)   an antibody for methylenedioxymethamphetamine, said antibody being raised against a compound of the formula:

wherein:

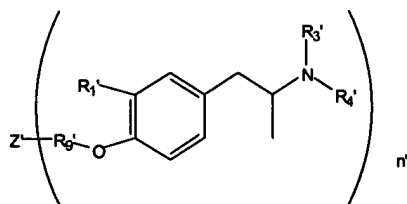R$^{1'}$ is H, or methyl or ethyl

R$^{3'}$ is H,

R$^{4'}$ is methyl,

R$^{9'}$ is -(CH$_2$)$_n$C(O)R$^{6'}$,

R$^{6'}$ ~~is~~ Z', ~~which~~ is a protein immunogenic carrier or a non-poly(amino acid) immunogenic carrier,

n' is an integer between 1 and the molecular weight of said protein immunogenic carrier or said non-poly(amino acid) immunogenic carrier divided by about 500, and/or

(iv)   an antibody for methylenedioxyethamphetamine, said antibody being raised

against a compound of the formula:

wherein:

$R^{1'}$ is H, or methyl or ethyl

$R^{3'}$ is H,

$R^{4'}$ is ethyl,

$R^{9'}$ is -$(CH_2)_nC(O)$~~$R^{6'}$~~,

~~$R^{6'}$ is~~ Z', ~~which~~ is a protein immunogenic carrier in or a non-poly(amino acid) immunogenic carrier,

n' is an integer between 1 and the molecular weight of said protein immunogenic carrier or said non-poly(amino acid) immunogenic carrier divided by about 500.

Claim 32 (canceled).